West Nile virus and other arboviral activity:

Weekly Summary, Michigan 2012

August 16, 2012

This update includes provisional data reported to the Michigan Department of Community Health for January 1 – August 16, 2012 for notifiable arboviral disease caused by West Nile, Eastern equine encephalitis, La Crosse, Powassan, and St. Louis encephalitis viruses.

3,917

Mosquito pools tested for arbovirus infection so far in 2012. Eight pools have tested positive for WNV.

55

The median age among WNV cases is 55 years. The range is 18-84 years.

70%

of all current human WNV activity is from the tri-county Detroit Metro area.

West Nile virus (WNV) activity in 2012

Reported WNV disease cases: As of August 16, 2012, there have been 24 human cases of WNV disease reported from nine Michigan counties. Of these cases, 19 (79%) were classified as neuroinvasive disease (e.g., meningitis, encephalitis, acute flaccid paralysis) and 5 (21%) as non-neuroinvasive disease (Table 1). Dates of illness onset for disease range from July 13 - August 8.

Presumptive viremic blood donors: A total of 9 WNV presumptive viremic blood donors have been reported in Michigan. Four donors were from Wayne County including one resident of the City of Detroit, two donors were from Macomb County, and one each from Oakland, Livingston and Ingham counties. Most people who are infected with WNV do not develop an illness but virus might be temporarily present in their blood. These asymptomatic but infected people are detected through routine blood donor screening, which provides an important early warning of WNV activity in an area.

Comparison to 2011 data: Figure 1 displays the onset dates of human WNV cases in 2012 compared to 2011. Human illness onsets began two-weeks earlier than in 2011.

Ecological Surveillance: Mosquito pools have tested positive for WNV infection from Bay, Tuscola, and Midland counties, and four mosquito pools have tested preliminary positive for WNV from Wayne county, bringing the rate of positive submissions from Wayne to near 50%.

Previously reported WNV surveillance positives include multiple human cases from southeastern Michigan, a horse from Montcalm county and several American crows from Midland county. Current and previous human and ecologic surveillance results are compiled in Figures 2 and 3.

http://www.michigan.gov/westnilevirus

Prepared by the Michigan Department of Community Health
Division of Communicable Disease
Zoonotic Disease and Special Projects Section

Michigan Department of Community Health
MDCH

Table 1. Human West Nile virus infections reported in Michigan, 2012, by county and reported clinical syndrome.

Human West Nile virus (WNV) infections reported, Michigan, 2012 (as of 08/16/2012)					
	Reported human disease cases				
County	Neuroinvasive disease cases	Non-neuroinvasive disease cases	Total cases	Deaths	Presumptive viremic blood donors
Allegan	0	1	1	0	0
Ingham	0	1	1	0	1
Lapeer	1	0	1	0	0
Livingston	0	0	0	0	1
Kent	3	0	3	0	0
Macomb	6	1	7	0	2
Oakland	3	0	3	0	1
Washtenaw	1	0	1	1	0
Wayne	5	2	7	0	4
Totals	**19**	**5**	**24**	**1**	**9**

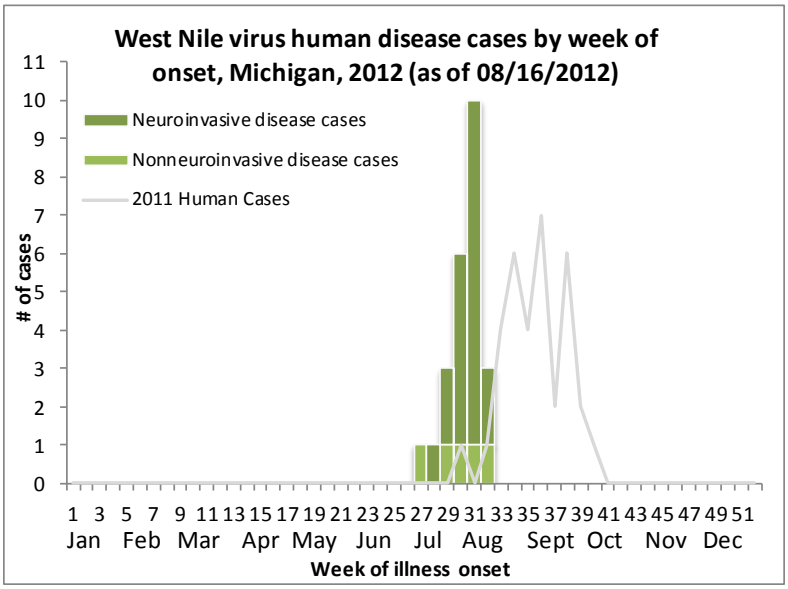

Figure 1 (left). Illness onset of WNV human cases in Michigan, 2012 (green bars), compared to 2011 (gray line). Reported human illness case onset in 2012 began two-weeks earlier than in 2011.

Figure 2 (below left). Reported WNV human illnesses or presumptive viremic blood donors in Michigan, 2012, by county of residence.

Figure 3 (below right). Reported mosquito, domestic animal, and wildlife species testing positive for WNV in Michigan, 2012.